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(54) OXIDE SUPERCONDUCTING COMPOSITE MATERIAL AND ITS MANUFACTURE

(57)Abstract:
PROBLEM TO BE SOLVED: To provide a high strength oxide superconducting composite material in which metal material is simultaneously strengthened besides oxide superconducting material by heat treating the oxide superconducting material after machining the same which is not heat treated.
SOLUTION: Oxide superconducting composite material using metal material not conducted dispersion strengthening treatment in advance as coating material or base material is machined in such a state easy for machining in which 0.2% proof stress is about 20MPa or more, and breaking elongation is about 1% or more. The same is superconducting heat treated so that the metal material is simultaneously strengthened besides the oxide superconducting material. As the metal material silver base alloy containing one kind or more of Cd, Hf, Mg, Mn, Ni, Sn, Ti, Zr is used. As an oxide superconductor a Bi group composed of at least Bi, Sr, Ca, and Cu is used. As the composite material tape-like wire rods are used. The superconducting treatment is conducted at a temperature of 700 to 950° C and in an atmosphere of about 0.01 to 10atm of oxygen partial pressure.

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(54)【発明の名称】　酸化物超電導複合材及びその製造方法

(57)【要約】
【課題】加工が容易で、しかも安価な高強度酸化物超電導複合材を提供することにある。
【解決手段】予め強化処理が施されていない金属材を被覆材あるいは基材とした酸化物超電導複合材を０．２％耐力、破断伸びがそれぞれ２０ＭＰａ以上、１％以上の状態、すなわち加工が容易な状態で加工を行い、その後の超電導化熱処理の際に同時に酸化物超電導材以外の金属材を強化する。